Amendments to the Claims:

1. (Currently Amended) A routing method for a multiplex system configured to receive N input multiplexes and provide N' output multiplexes, wherein each output multiplex has M+L channels with $L \geq 0$, the method comprising:

receiving N input multiplexes, wherein each input multiplex includes M input channels and each input channel is configured to transport an input data packet and an associated input header, and wherein each input header identifies the corresponding data packet and specifies at least one output to which it is to be routed multiplexing the M multiplexed packets so as to generate an aggregate multiplexed signal comprising all of the multiplexed input data packets representing the N input multiplexes;

distributing the aggregate multiplex signal among inputs of N' processing chains, wherein each processing chain comprises M+L selection chains disposed in parallel;

demodulating and decoding each of the M input headers;

encoding and modulating the demodulated and decoded input headers to generate output headers;

selecting n data packets from ~~n of~~ the M+L selection chains corresponding to ~~the~~ a k^{th} output on the basis of the input headers corresponding to n data packets that are to be routed to the k^{th} of the N' outputs, wherein said selecting step comprises selecting from the aggregate multiplexed signal each input multiplex that includes the data packets to be routed to the k^{th} output and selecting from each of said selected input multiplexes each data packet to be routed to the k^{th} output; and

multiplexing the selected n data packets with corresponding n output headers in order to generate the k^{th} output multiplex, where $k = 1, 2, ..., N'$.

2. (Original) A method according to claim 1, wherein L is a non-zero integer.

3. (Original) A method according to claim 1, wherein each of the input multiplexes comprises data packets and a signalling channel containing headers,

and wherein each of the N input multiplexes is demultiplexed in order to separate the headers from the data packets.

4. (Cancelled)

5. (Previously Presented) A method according to claim 1, wherein the aggregate multiplexed signal is generated by code- or frequency- or wavelength-division multiplexing for the N input multiplexes, a corresponding code, frequency, or wavelength being allocated to each input multiplex, and wherein the step of selecting from the aggregate multiplexed signal each input multiplex comprises demultiplexing using said code or frequency or wavelength.

6. (Currently Amended) A method according to claim 1, wherein the aggregate multiplexed signal is generated by code- or frequency- or wavelength-division multiplexing for the N input multiplexes, a corresponding code, frequency, or wavelength being allocated to each input multiplex, and wherein the step of selecting from the aggregate multiplexed signal each input multiplex comprises performing a first code- or frequency- or wavelength-division demultiplexing operation and wherein the step of selecting from each of said selected input multiplexes each data packet to be routed comprises performing a second code- or frequency- or wavelength-division demultiplexing operation.

7. (Previously Presented) A method according to claim 1, wherein said multiplexing of the selected data packets comprises:

code- or frequency- or wavelength-division multiplexing of the data packets to be routed to the k^{th} output; and

code- or frequency- or wavelength-division multiplexing of the headers corresponding to said data packets to be routed to the k^{th} output.

8. (Original) A method according to claim 7, wherein the selected data packets and headers are multiplexed in the output multiplex of the k^{th} output.

9. (Previously Presented) A device for routing a plurality of input multiplexes, wherein each input multiplex includes at most M multiplexed data packets and a corresponding routing header the device comprising:

a first system comprising:

an input multiplexing module configured to receive and multiplex N input multiplexes and configured to generate as output an aggregate multiplexed signal;

a distributor circuit in communication with the input multiplexing module and configured to distribute said aggregate multiplexed signal to an input of each of N' processing chains, wherein each of the N' processing chains is allocated to one of N' outputs of the device; and

M+L selection circuits in parallel and each in communication with the distributor circuit, wherein each selection circuit comprises in series a beam selector, a channel selector, and a channel converter;

a second system comprising:

a demodulation and decoding circuit configured to receive the headers of each of the N input multiplexes and configured to demodulate and decode said headers;

a processor circuit in communication with the demodulation and decoding circuit and with the beam selectors and channel selectors of the first system, wherein the processor circuit is configured to process the demodulated and decoded input headers and to configure the beam selector and the channel selector in at least some of the M+L selection circuits in each of the processing chains so that each said selection circuit selects a data packet for routing to an output with which the data packet is associated;

a header generator module in communication with the processor circuit and configured to generate, for each output of the device, output headers corresponding to each output data packet outputted from said selection circuits of the first system; and

an encoder and modulator circuit configured to encode and modulate the output headers generated by the header generator module;

wherein, for each of said selection circuits of the first system, the channel converter comprises means for adding to each of said data packets an output channel identification signal so as to place each output data packet belonging to the same output on different channels; and

wherein the device further includes an output multiplexer module for each of said N' outputs of the device configured to multiplex the data packets allocated to said outputs with the output headers corresponding to said data packets.